Saari, Christopher A - DNR

From: Dave Larsen <dlarsen@reiengineering.com>
Sent: Monday, February 06, 2017 4:13 PM
To: Saari, Christopher A - DNR; Robinson, John H - DNR; Egan, Robert (egan.robert@epa.gov); kamke.sherry@epa.gov; Hanson, Kristen (KHanson@ldftribe.com)
Subject: Work Plan for next sampling event at Tower Standard
Attachments: Work Plan Quarter 1 - 2017 Well Sampling Tower Standard.pdf

Hello All, REI has been approved to sample the monitoring well network at Tower Standard. Attached is a brief work plan outlining the proposed work. The intent is to sample the wells in a manner consistent with previous sampling events. Wells are to be sampled for PVOC and naphthalene compounds and dissolved lead at sample locations MW17, MW17@31-36, MW20, MW20@20-25, MW21 and MW22.

Field work would not begin prior to February 20, 2016 and REI will monitor the local weather before deciding on a sampling date. With regard to access to the Kozak property for Tribal oversight of the proposed well sampling, permission is granted as long as the Tribal members are accompanied by REI personnel.

Please let me know if you have any questions or concerns.

Thank you,

David N. Larsen P.G
Hydrogeologist / Professional Geologist

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WELL SAMPLING WORK PLAN
2017 – QUARTER 1

TOWER STANDARD SERVICE
14267 STATE HIGHWAY 70
LAC DU FLAMBEAU

BRRTS #03-64-127889
PECFA #54538-9517-67

REI #903

INTRODUCTION

REI Engineering, Inc. (REI) has prepared a Groundwater Sampling Work Plan to complete groundwater sampling activities at the former Tower Standard Service located at 14267 State Highway 70 W, Lac du Flambeau, WI. (Figure 1).

Scope of Work

REI has received approval from the Wisconsin Department of Natural Resources (WDNR) to conduct groundwater sampling from the existing groundwater monitoring well network associated with the Tower Standard investigation (Bristol Figure 2). REI recommends that the following workscope be completed to aid in defining the vertical and lateral extent of groundwater contamination at the site. The specific work scope is as follows:

1. Mobilize to the site to conduct the sampling and collection of groundwater samples from each of the groundwater monitoring wells associated with the Tower Standard investigation.

2. No potable wells will be sampled during this proposed sampling event.

3. REI will also provide ten (10) days advance notice to the Lac du Flambeau Tribal Natural Resource Department Environmental Specialist prior to initiating any proposed site work.

4. REI proposes the use of low flow groundwater sampling methodologies. Water samples are to be collected using low-flow pumping with a peristaltic pump. Field measurements collected for temperature, conductivity, dissolved oxygen, pH, and redox potential through an in-line flow cell. Samples to be collected once field measurements have stabilized. If, prior to sampling, the well was purged dry, it is allowed to recharge prior to sampling.

5. Samples will be submitted for laboratory analysis of Petroleum Volatile Organic Compounds (PVOCs) and naphthalene.

6. All purge water and other investigative waste will be containerized in DOT certified 55-gallon drums pending final disposal at a licensed facility.

7. Upon completion of the fieldwork, REI will provide a copy of the recorded field data and groundwater analytical results to the Wisconsin Department of Natural Resources Project Manager, United States Environmental Protection Agency Corrective Action Manager and Lac du Flambeau Tribal Natural Resource Department Environmental Specialist.

Quality Assurance/Quality Control (QA/QC)

REI personnel will maintain strict adherence to established QA/QC procedures during sample collection and handling. EPA and/or WDNR standard accepted sample collection, transportation and storage protocols will be implemented prior to analysis of samples by a state certified laboratory. Sample containers will be properly preserved and stored prior to analysis. Dates of analysis, contingent upon the shelf life of the parameter of interest, will be noted. Field chain-of-custody (COC) documentation will be maintained for each sample. Internal laboratory QA/QC protocols will be adhered to in accordance with protocols outlined in EPA document SW846, Test Methods for Evaluating Solid Waste, EPA Method 8021 WDNR Petroleum Volatile Organic Compounds and naphthalene and EPA method 6010/200.7 Dissolved Lead.

Chain of Custody

Upon completion of a soil, groundwater or vapor sample, a chain of custody log will be initiated. The chain of custody record will include the following information: project name, work order number, shipped by, shipped to, sampling point, location, field ID number, date and time taken, sample type, number of containers, analysis required, sampler(s) signature(s), etc. The fewest number of people possible will handle the samples.

Decontamination

Decontamination of all field equipment will be performed to eliminate potential cross-mixing between discrete sampling points. All sampling equipment will be decontaminated by washing with an Alconox/demineralized water solution, rinsing with demineralized water. Wash water will be contained in Wisconsin Department of Transportation (WDOT) approved 55-gallon drums pending proper disposal or treatment.

CHEMICAL ANALYSIS OF GROUNDWATER

Groundwater samples collected will be submitted to a state certified laboratory for analysis of appropriate constituents. Laboratory analysis of the collected groundwater samples will be completed in accordance with EPA and/or WDNR accepted methods. The groundwater samples collected from each monitoring well will be analyzed according to one or more of the following methodologies:

EPA Method	Analytical Constituent	Method Detection Limit
8021	Petroleum Volatile Organic Compounds and Naphthalene	0.322 – 1.029 mg/L
6010/200.7	Dissolved Lead	1.0 u/L

ug/L = parts per billion (ppb) mg/L = parts per million (ppm)

All groundwater sample data collected from field measurements and laboratory analytical sampling will be tabulated and summarized in subsequent reports. Laboratory analytical results will be compared to enforceable limits specific to each compound.

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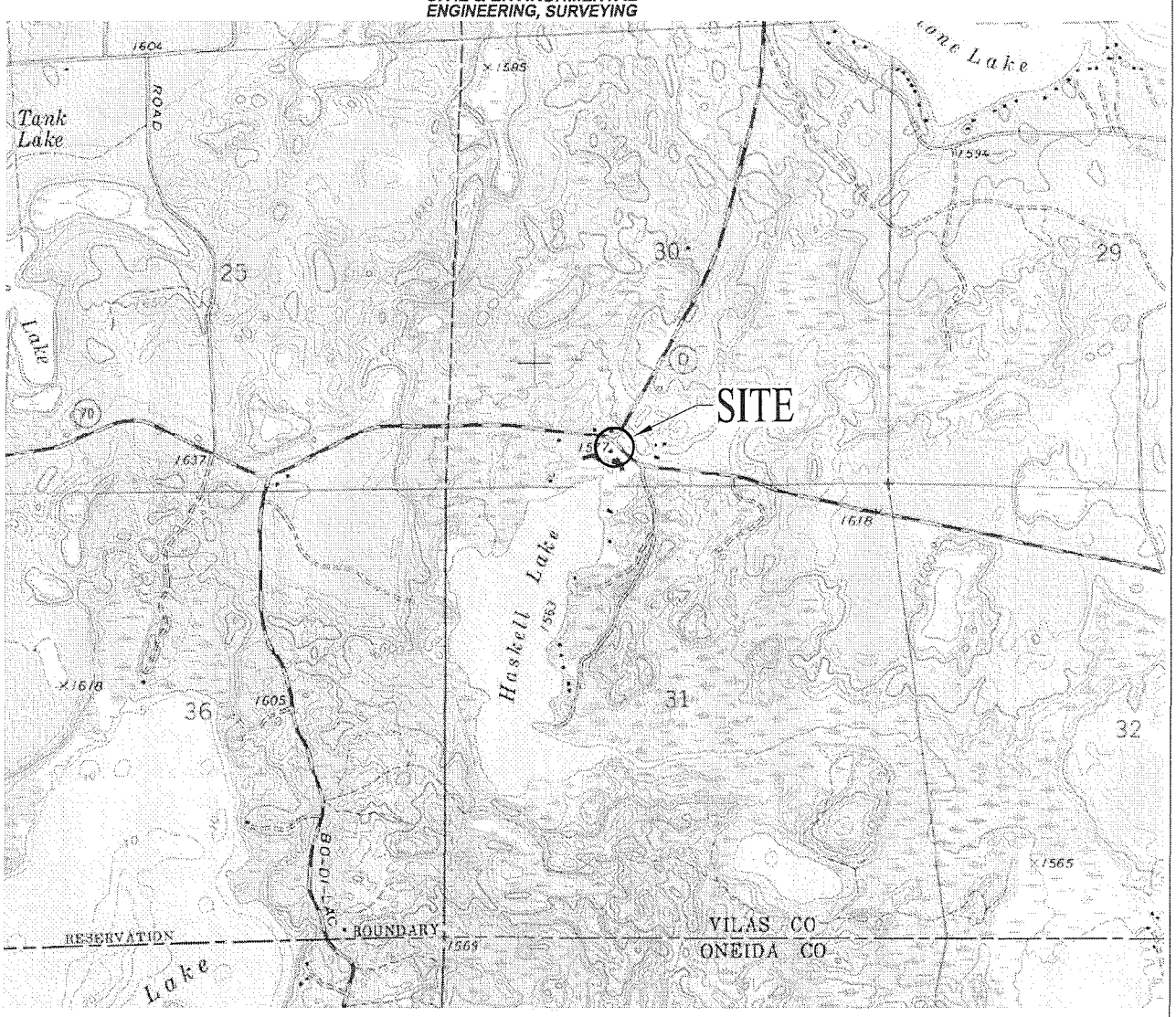


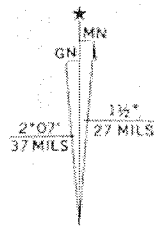
SCALE 1:24 000

1 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929



UTM GRID AND 1971 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

LAC DU FLAMBEAU, WIS.

N4552.5—W8952.5/7.5

1971

AMS 3075 IV NW—SERIES V861

QUADRANGLE LOCATION

REI Engineering, INC.

TOWER STANDARD 14267 HIGHWAY 70 WEST LAC DU FLAMBEAU, WISCONSIN	FIGURE 1 : SITE VICINITY MAP		
	PROJECT NO. 0903	DRAWN BY: TAW	DATE: 5/18/2016

DRAWING FILE: P:\0900-0999\0903-TOWER\DWG\1903-VICN.DWG LAYOUT: VICN PLOTTED: MAY 19, 2016 - 5:00PM PLOTTED BY: TODDW

Legend

- LIF Boring (2016 LDF)
- MiHpt Probe (2016 REI)
- Borehole (2016 BERS)
- Borehole (2015 REI)
- New Monitoring Well (2016 BERS)
- Existing Monitoring Well
- Vertical Aquifer Sample (2013 Weston)
- Hydrology

Notes:
LDF = Lac du Flambeau
LIF = Laser-Induced Fluorescence
MiHpt = Membrane Interface Probe/Hydraulic Profiling Tool
BERS = Bristol Environmental Remediation Services, LLC
REI = REI Engineering, Inc.
Weston = Weston Solutions, Inc.

N
W E
S
0 17.5 35
Feet

MW-2
BH34
MW-3
BH35B
BH35A
State Highway 70
Bait Shop
(Former Service Station)
BH19
BH18
BH31B
BH31A
BH24
MW22D
MW22
BH20
BH17
MIP5
BH33
BH9
BH10
BH1
LIF-10
BH32B
LIF-11
BH23C
BH23B
BH23A
BH23E
MIP4
BH23D
LIF-18
BH11
LIF-04A
BH32A
MW18
BH2
BH7
16BH02
BH12
LIF-04
BH22B
BH27
MIP6
MW21D
BH22A
LIF-12
MW18D
BH3
MW21
16BH01
MIP16
16BH04
LIF-17
Haskell Lake Lodge
BH14
MIP11
BH8
MW-21M
LIF-03
LIF-13
LIF-01A
BH21
MIP1
LIF-09
MW20D
BH4
16BH03
LIF-07
16BH05
MW20
LIF-14
MIP15
BH16
LIF-02
LIF-06
BH26
LIF-15
VAS08
LIF-08
MIP10
BH5
LIF-05
MIP17
MIP7
BH13
16BH06
BH28
LIF-16
MIP9
BH6
BH15
MW19D
MW19
BH25
VAS04B
VAS04A
MW17D
MW17
BH29
MIP8
MIP2
MIP12
Unnamed Pond
BH30
MIP13
BH37B
BH37A
BH36
MIP14
MIP3
MW-16E
MW16D
MW16
Haskell Lake

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, US
Community

Document Path: C:\Users
peacock\Desktop\Projects\34170026\Site Investigation Tech Memo\Maps\Figure2.mxd

FIGURE 2
LAC DU FLAMBEAU, WI
TOWER STANDARD LUST SITE
SITE MAP

Bristol
ENVIRONMENTAL REMEDIATION SERVICES, LLC
Phone (907)563-0013 Fax (907)563-6713

DATUM:	NAD83
PROJECTION:	SP WI ZN FT
Project No.	34160024
Date:	9/19/2016
DWN.	NAP
SCALE	1" = 35'
APPRVD.	MF
SHEET	1 of 1